

CLAIMS

1. Telemark boot (1) suitable for permitting a bending action in correspondence with an articulation of the metatarsus phalange of the foot, the boot (1) comprising a containing hull for the foot, and a flexible articulation (7) which is arranged substantially in correspondence with a point of the hull (2) in order to permit the said bending action of the hull (2); the boot (1) being characterised by the fact that it comprises control means (10) of the bending action which are associated with the hull (2) and which are arranged in correspondence with the said flexible articulation (7).

2. Telemark boot according to Claim 1, characterised by the fact that the said control means (10) of the bending action comprise at least two collapsible chambers (11) which are defined by respective walls (12) made of flexible material which are elastically correlated in relation to each other.

3. Telemark boot according to Claim 2, characterised by the fact that the collapsible chambers (11) are arranged one after the other along and transverse to a longitudinal axis (A) of the

boot(1) itself; the said walls (12) being connected along respective flexible hinges (13) which are arranged transverse to the longitudinal axis (A).

4. Telemark boot according to Claim 3,  
5 characterised by the fact that the said collapsible chambers (11') are arranged partially overlapping along the said longitudinal axis (A).

5. Telemark boot according to Claim 3,  
characterised by the fact that the said collapsible  
10 chambers (11'') are arranged totally overlapping along the said longitudinal axis (A).

6. Telemark boot according to Claims 4 or 5,  
characterised by the fact that the said means (10)  
of the bending action comprise stiffening means (20)  
15 which are associated with the said walls (12) made of flexible material and are arranged parallel to the said longitudinal axis (A).

7. Telemark boot according to Claim 6,  
characterised by the fact that said stiffening means  
20 (20) comprise a number of flaps (21) which are arranged parallel to the said axis (A) and which are distributed externally to the hull (2).

8. Telemark boot according to Claim 6,  
characterised by the fact that the said stiffening  
25 means (20) comprise a number of shaped ribs (21'')

which are arranged along the said axis (A) and which are distributed externally to the hull (2).

9. Telemark boot according to Claim 6, characterised by the fact that the said stiffening means (20) comprise a number of flaps (21'), which are arranged parallel in relation to each other and transverse to the said axis (A), and which are distributed between two successive collapsible chambers (11).

10 10. Telemark boot according to Claims 7, 8, or 9, characterised by the fact that the said stiffening means (20) comprise an external moulding (25) (26) (27) (27') which is suitable for increasing a resistance to bending action of the hull (2).

15 11. Telemark boot according to Claim 10, characterised by the fact that the said moulding (25) is arranged parallel to the longitudinal axis (A).

20 12. Telemark boot according to Claim 11, characterised by the fact that the said moulding (26) is S-shaped and is arranged along the longitudinal axis (A).

25 13. Telemark boot according to Claim 10, characterised by the fact that the said moulding (27) is arranged at an incline in relation to the

longitudinal axis (A).

14. Telemark boot according to Claim 13, characterised by the fact of comprising a further moulding (27') which is arranged at an incline in relation to the longitudinal axis (A) and which is crossed with the said moulding (27) (27').

15. Telemark boot according to any of the Claims from 6 to 14, characterised by the fact that the said stiffening means (20) comprise a support arch (30) which is arranged transverse to the said longitudinal axis (A), and which extends from one side to the other of the said hull (2).

16. Telemark boot according to any of the preceding Claims whatsoever, characterised by the fact that the said control means (10) comprise a determined number of tongues (40) which are integral with the said hull (2) and which define a determined number of preferential bending lines (41) of the said flexible articulation (7).

17. Telemark book according to Claim 16, characterised by the fact that the said control means (10) comprise two pairs of tongues (40) which extend opposite the said hull (2) one pair towards the other transverse to a longitudinal axis (A) of the hull (2) and which define two preferential

bending lines (41); the tongues (40) of each pair of tongues (40) defining in relation to each other and with the hull (2) three respective loops (42) of variable extensions towards the said point (4).

5           18. Telemark boot according to Claims 16 or 17, characterised by the fact that the said control means (10) comprise a frontal loop (42) which is defined by two tongues (40) which are arranged on opposite sides of the hull (2).

10           19. Telemark boot according to any of the Claims from 1 to 16, characterised by the fact that the said control means (10) comprise two tongues (40), which extend from said point (4) on respective sides (3) of said hull (2), and an intermediate  
15 flexible bridge which is arranged between said tongues (40).

          20. Telemark boot according to any of the preceding Claims whatsoever, characterised by the fact that that the said control means (10) comprise  
20 a valve (50) which can be activated by the control means (10) themselves in order to regulate the flow of air into or out of the said hull (2).

          21. Telemark boot according to any of the preceding Claims whatsoever, characterised by the  
25 fact that the said means of control (10) comprise a

flexion bracket (60) which is coupled to said flexible articulation (7) and which extends longitudinally towards a collar (61) of the said hull (2).

5        22. Telemark boot according to Claim 21, characterised by the fact that the said flexion bracket (60) is engaged in correspondence with the flexible articulation (7), and is further engaged on the said collar (61).

10       23. Telemark boot according to Claim 1, characterised by the fact that the said control means (10) comprise a flexible frame (70) which is arranged in order to cover said flexible articulation (7).

15       24. Telemark boot according to Claim 23, characterised by the fact that the said flexible frame (70) is defined by a plate (71) which is provided with a number of shaped holes (72).

20       25. Telemark boot according to Claim 23, characterised by the fact that the said flexible frame (70) is defined by one or two sinuous ribs (73) which extend along a longitudinal axis (A) of said hull (2).

25       26. Telemark boot according to Claim 23, characterised by the fact that the said flexible

frame (70) is defined by a number of semi-cylindrical bodies (74) which are arranged transverse to an along a longitudinal axis (A) of said hull (2) and are laterally connected to each other.

27. Telemark boot according to Claim 23, characterised by the fact that the said flexible frame (70) is defined by a box-shaped body (76) which is provided with an external shaped wall (77).

28. Telemark boot according to Claims 26 or 27, characterised by the fact that the said flexible frame (70) extends as far as a collar (61) of the said hull (2).

29. Telemark boot according to Claim 1, characterised by the fact that the said control means (10) comprise a pair of vibrating elements (80) which are arranged on the opposite sides (3) of the said hull (2) and are provided with respective forks (81) which face one another with their tips.

30. Telemark boot according to Claim 1, characterised by the fact that the said control means (10) comprise a pair of vibrating elements (80) which are arranged on the opposite sides (3) of said hull (2) and are provided with respective forks (81) which face one another with their tips.

31. Telemark boot according to Claim 1,  
characterised by the fact that the said control  
means (10) comprise a concave wall (90) which is  
open towards the outside and which defines a shaped  
5 housing (91) which is arranged transverse to a  
longitudinal axis (A) of said hull (2).

32. Telemark boot according to Claim 31,  
characterised by the fact that the said control  
means (10) comprise a cushion (92) made of  
10 gelatinous material which is arranged inside the  
said housing (91).

33. Telemark boot according to Claim 1,  
characterised by the fact that the said control  
means (10) comprise two flat appendixes (100),,  
15 which extend opposite the point (4), and which are  
suitable for progressively entering in contact with  
each other in order to increase the bending action  
of the hull (2).

34. Telemark according to any of the preceding  
20 Claims whatsoever, characterised by the fact that  
the said control means (10) comprise an elastic  
element (110) which is arranged inside the said hull  
(2) and which is suitable for exerting a  
supplementary elastic action.

25 35. Telemark boot according to Claim 34,



characterised by the fact that the said elastic element (110) is embedded in a sole (6) of said hull (2) and comprises two comb plates (111) which are hinged in relation to each other in order to form, in correspondence with a respective hinge (112), a torsion spring which is arranged transverse to a longitudinal axis (A) of the hull (2); the two comb plates (111) exerting a distending elastic action of the sole.

10 36. Telemark boot according to Claim 34, characterised by the fact that the said elastic element (110) comprises two torsion springs (113) which present a common torsion axis (B) which is transverse to a longitudinal axis (A) of said hull (2) and two connecting bridges (114) which are arranged between the two opposite sides (3) of the hull (2) in order to connect between them the two torsion springs (113); the two torsion springs (113) exerting a distending elastic action of the sole (6).

20 37. Telemark boot according to any of the preceding Claims whatsoever, characterised by the fact that the control means (10) comprise a shaped elastic plantar (120) which is provided with a flexible portion (121) which is arranged

substantially in correspondence with said articulation (7), and with a compensating portion (122) which is arranged in an intermediate position between the flexible portion (121) itself and the  
5 point (4).

38. Telemark boot according to Claim 37, characterised by the fact that the flexible portion (121) presents a cavity (123) which is open towards the sole (6) and which presents an apex of maximum  
10 depth which is substantially in correspondence with the articulation (7).

39. Telemark boot according to an of the preceding Claims whatsoever, characterised by the fact that the control means (10) comprise an insert  
15 (130) which is applied to the sole (6) in such a way that it may be uncoupled, and which presents a number of overhanging outlines (131) for coupling and stiffening.

40. Telemark boot according to Claim 39,  
20 characterised by the fact that the said overhanging outlines (131) are arranged transverse to the axis (A) in order to render the insert (13) integral with the sole (6), and they present determined shapes in order to modulate the bending action control  
25 characteristics of the means of control (10).

41. Telemark boot according to any of the preceding Claims whatsoever, characterised by the fact that the means of control (10) comprise a stiffening fork (14) which is laterally associated  
5 with the sole (6).

42. Telemark boot according to Claim 41, characterised by the fact that the said fork (140) comprises two arms (143) which are provided with respective shaped overhanging outlines (144) which  
10 are able to be coupled to the said sole (6), and a connecting head (145) between the two arms (143) which presents variable dimensions.

43. Telemark boot according to any of the preceding Claims whatsoever, characterised by the  
15 fact that the control means (10) comprise a bellows (150) which is arranged in correspondence with the flexible articulation (7), and plate means (151) which are arranged on the side of the bellows (150) and which are made of plastic material or tissue in  
20 order to contribute to modifying the control characteristics of the control means (10) in relation to the bending action of the Telemark boot (1).

44. Telemark boot according to Claim 43,  
25 characterised by the fact that the said plate means

(151) comprise, for each side of the Telemark boot (1), two plates (151) which define a channel (159) in relation to each other and which is able to be filled with material of a determined density.

5           45. Telemark boot according to Claim 44, characterised by the fact that each plate 151 presents a respective notch (160), which is wedged inside the channel (159) in such a way as to replace the filling material of the channel (159) itself.

10           46. Telemark boot according to any of the preceding Claims whatsoever, characterised by the fact that the control means (10) comprise a bellows (150), and a number of bulged elements (170, 171a, 171b) which are made of a material of a determined  
15 density and which are associated with the bellows (150) themselves.

          47. Telemark boot according to Claim 46, characterised by the fact that the first bulged element (170) of the said bulged elements (170,  
20 171a, 171b) presents, in plan view, a substantially triangular shape, and extends along a median line of the hull (2) as far the bellows (150).

          48. Telemark boot according to Claims 46 or 47, characterised by the fact that a second and  
25 third bulged (171a, 171b) of the said bulged

elements (170, 171a, 171b) are arranged in correspondence with an end point (4) of the said hull (2) which is opposite the bellows (150) in relation to the first bulged (170).

5        49. Telemark boot according to Claims 46 or 48, characterised by the fact that the said bulged elements (170, 171a, 171b) present a variable rigidity in relation to their own thickness and their own width, and they are preferably, but not  
10 necessarily, made of plastic material.

50. Telemark boot according to any of the preceding Claims whatsoever, characterised by the fact that the said control means (10) comprise a furrow (180) which is obtained through the end point  
15 (4) of the said hull (2), and a piezo-electric pad (181), which may be arranged in such a way as to fill the furrow (180) itself, and which is suitable for being heated in such a way as to obtain the deformation which is due to stress and bending  
20 action.